

# Teaching Statement

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I have been supervising students in Imperial College London for over 4 years. During this period, I supervise full-time PhD, MSc and undergraduate students in research-oriented projects. I shared my research and development experiences with the students to start their projects, planned and monitored project progress in weekly meetings, advised critical design decisions and provided guidelines for report writing. I also provided suggestions on research directions for new PhD students.

At the same time, I also serve as teaching assistant (TA) and course support leader. Duties included managing tutorial helpers, supporting tutorial sessions, helping students with exercises, marking coursework, helping in examinations and processing student appeals. Courses include the two below.

113 Architecture, 1<sup>st</sup> year undergraduate

2011, 2012

The course is about the fundamental understanding of the organization and operation of a desktop computer system. The emphasis of the course is on how high-level language programs are represented and executed at an architectural-level. Scope includes: data representation, memory organization, CPU architecture, I/O device and assembly language programming. I am the course support leader of this course, and I work closely with the lecturer in course preparation and delivery.

210 Computer Architecture, 2<sup>nd</sup> year undergraduate

2009, 2010

This course focuses on the hardware side of the computer systems and shows the relationship between hardware and software. It provides the basis for current computers systems. Scope includes: computer arithmetic, performance analysis, pipelining, memory hierarchy and parallel computing. As a TA of the course, I utilize my knowledge of hardware design gained from various research projects to help students understand the lecture contents better and to provide suggestions of more efficient solutions.

During my PhD study in the Chinese University of Hong Kong, I served as teaching assistant for both undergraduate and postgraduate courses. Duties included giving tutorial lessons, shared responsibility for exams, assignments and grading. Courses involved: CSC3250 Computers and Society; CSC4160 Distributed and Parallel Computing; CEG3470 Digital Circuits; CEG5010 Reconfigurable Computing.

CSC4160 Distributed and Parallel Computing, 2<sup>nd</sup> year undergraduate

2000

The course focuses on the application level of distributed and parallel program running on multiple nodes. Scope includes: message passing interface, inter-process communication, locking and synchronization. As the TA in the course, I provided supplemental materials about the programming framework for each topic and proposed course projects based on the PVM system.

CSC3250 Computer and Society, 1<sup>st</sup> year undergraduate

2004

This course is for students from non-computer majors. The main objective is to introduce them to computer technologies and relate them to their everyday lives. The tutorial contents were carefully selected to reflect social reality and inspire thorough and comprehensive thinking. Examples included digital entertainment, computer security and open source software development. Students are encouraged to share their own experience and vision of the topics in discussion. In the course, I have the freedom to define the tutorial topics and presentation styles.

CEG3470 Digital Circuit, 2<sup>nd</sup> year undergraduate

2001~ 2003

The course provides in-depth knowledge of the working principles of digital logic and techniques of circuit design. The scope includes: various models of diode and transistor, CMOS logic, memory cells, transistor sizing and VLSI layout. The tutorial material was based on a textbook, and included common pitfalls that students might encounter. The material was constantly updated according to the level and progress of the students such that tutorial time is utilized efficiently. I am also responsible for designing and marking course projects including SPICE simulation and Magic layout.

CEG5010 Reconfigurable Computing, postgraduate

2000~ 2004

This is a project-based course for advanced level hardware development. The topics include: hardware development on FPGA platforms, FSM designs, hardware acceleration of cryptographic systems, DSP design and floating point computation. I arranged homework before the project for students to get familiar with the design. Based on student feedback, I approved more interesting and practical projects related to their own research work. Demonstration and presentation sessions were arranged for the whole class such that students can share their experiences and successes.

## **Teaching Plans**

The scope and outline of the course will be drafted first. I will then evaluate the background of the students so that the contents are not redundant and are suitable for their level. Also, the continuity of these contents is considered such that students can have a big picture view of the individual topics. The major assessment methods would usually be homework and examination. Most questions will be based on lecture material. The levels of the students will be distinguished by the ability of applying the taught material to solve new problems.

## **Conclusion**

The experience of preparing class material, giving tutorial sessions, setting up and guiding projects and assessing student performance will help me provide high quality teaching. Based on previous evaluations, I conducted teaching duties well and fulfilled all the expected requirements.